

The Old Northwest Territory and Pharmaceutical Education

An Address by

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LAFAYETTE

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DR. EDWARD KREMERS

EVERY school child has learned of the Edict of 1787 and, no doubt, has been told by his history teacher that this act of Congress laid the foundation for the constitutions of the five states to be carved, in due season, out of the "Northwest Territory." He may have learned, not only that the future states were to be free states so far as slavery was concerned, but also that provision had been made for the educational systems of these states, even to a state university as the culmination of the popular education of generations as yet unborn. However, it is doubtful if even the writers of textbooks of the history of these United States have been, or are today, aware of the fact that these same embryonic universities were to revolutionize pharmaceutical education in this country. My designation of the change referred to as revolutionary is not prompted by a desire to produce a striking effect in the minds of those listening to this discourse. That it was truly revolutionary is revealed by the argumentative battles fought by the representatives of the old and the new ideals of pharmaceutical education.

In his *Japhet in Search of a Father* Marryat tells us that, when the apprentices of rival chemists' shops met in the streets of London, "draughts . . . met draughts in their passage through the circumambient air, and exploded like shells over a besieged town. Boluses were fired with the precision of cannon shot, pill boxes were thrown with such force that they burst like grape and canister, while acids and alkalies hissed, as they neutralized each other's power, with all the venom of expiring snakes."

It need scarcely be said that this vivid description, born in the imagination of an English novelist, must not be taken literally so far as rival educators are concerned any more than it applied to London apprentices. As a figure of speech, however, it paints a picture of the feeling which prevailed. For a thirty years' war resulted when the first of the five state universities of the Old Northwest had the temerity

to offer a course in pharmacy that was not controlled by a guild of apothecaries. However, in order to be able to understand what was going on in the educational circles of American pharmacy between 1880 and 1910, it will be necessary briefly to review the status of pharmacy in this country previous to that period.

Harvard and Yale were established in colonial days primarily to supply New England with an educated clergy. Both institutions expanded their curricula in the course of time and developed into the foremost of the privately-endowed universities of this country. In recent years Harvard went so far as to organize a graduate School of Commerce, and Yale, a School for Dramatics; but neither of these institutions has taken on pharmacy. In 1893 the late President Eliot admitted that Harvard had not "yet" offered a pharmaceutical curriculum to prospective students. Apparently it was not lack of interest in expansion. What most likely deterred both institutions was the futility of offering a course in pharmacy on the same footing with other collegiate courses. Neither Harvard nor Yale was ready to admit to a two-year course on the campus students who had not graduated from either a high school or an academy.

In order to appreciate this situation, let us review briefly what had been accomplished in pharmaceutical education before 1880, a milestone not only in pharmaceutical education, but in pharmaceutical organization and legislation as well.

As is well known, the first organized attempt to educate prospective pharmacists was made by a group of Philadelphia apothecaries and druggists who united themselves into what they designated a College of Apothecaries, the same being changed, a year later, to College of Pharmacy. This organization had been prompted by the offer of the Medical Faculty of the University of Pennsylvania to give a series of lectures to apprentices and clerks. At the same time it conferred the degree of Master of Pharmacy upon a select group of pharmaceutical practitioners. To what extent this discrimination affected the druggists of Philadelphia may never become fully apparent. We do know, however, from an address by Edward Parrish that Peter Lehman told his neighbor druggist, Henry Troth: "Henry, this won't do; the University has no right to be taking our boys away at noon to make them M.P.'s."¹ It also may never be revealed to what extent the desire for

¹ *American Journal of Pharmacy*, 41 (1869), p. 97.

pharmaceutical home rule influenced the druggists of the City of Brotherly Love. Let us hope that it was a controlling motive.

As to what occurred, there is no doubt whatever. The druggists of Philadelphia organized themselves into a College, not a teaching institution, but a closed corporation after the fashion of the *College de Pharmacie* of Paris which, shortly before the French Revolution, had replaced the former local guild of apothecaries.

Organization having been effected, the first step taken by the college was—and may I add, to its credit—to establish a “school,” i.e., to offer evening courses of lectures for clerks and apprentices. There also were established a library, a museum, and, several years later, a journal.

Like organizations were effected in Boston (1823), in New York (1829), in New Orleans (1838), in Baltimore (1841), in Cincinnati (1850), in Chicago (1859), and in St. Louis (1864). Not all of these, however, took their educational duties as seriously as did the Philadelphia College of Pharmacy. Thus the Massachusetts College of Pharmacy, while it created a library and arranged for occasional lectures, devoted more time to price discussion than to educational affairs. As a matter of fact, almost half a century was allowed to elapse before systematic courses were offered.

Again, some of the institutions, while anxious to educate better the rising generation of pharmacists, found that they were in advance of the time. Even the large cities in which these colleges were situated did not provide a sufficient number of students to pay the professors a moderate lecture fee. Thus after several attempts in New York, Dr. Squibb offered his services free and even dragged his lecture equipment from his Brooklyn factory to the lecture room in New York City. In St. Louis the preceptors appear to have been interested more than were their apprentices. Students were few and, in order to have any graduates whatever, the St. Louis college offered honorary degrees to its own members.

With the wave of resentment, the first wave of enthusiasm also passed quickly in Philadelphia. Successful as was the Philadelphia College when compared with the other institutions, its success was due largely to a few members who would not take their hands off the plow after the furrow had once been started. To them is due much of the credit for what advancement pharmacy in this country made during half a century.

As we have seen, the organization of the Philadelphia College of Pharmacy was motivated, in part at least, by the spirit of professional independence. Yet, after the druggists of Philadelphia had declared their independence from medicine, they found that they had to fall back on the medical profession for their lecturers. It was not until 1847 that a separate chair of pharmacy was provided and that William Procter, Jr., was appointed to fill it.

Now, what were the educational ideals of the men who started this movement in the large cities along the Atlantic coast and extended it westward as far as the Mississippi and in one instance even to the Pacific, viz., to San Francisco in 1872? The customary mode of training, if not of education, of that period in practically all callings was the apprenticeship system. The prospective physician served an apprenticeship in his preceptor's office. After several years during which he learned how to bandage and to attend to other minor duties, including the occasional sweeping of office and waiting room, he attended a medical college in one of the larger cities during the winter months. For the long summer vacation he returned to some physician's office. This was repeated in some instances as often as three times and at the end of the second or fourth winter, according to the length of the course, he took the examinations. If successful he was dubbed an M. D. and was regarded as qualified to practice independently.

The prospective lawyer likewise apprenticed himself to a legal preceptor in whose office he "read" law. He learned to fill out legal blanks and copied briefs; he looked up cases in the statutes, and when not otherwise engaged, read Blackstone. If later he attended lectures, these were given by successful lawyers on subjects in which they had specialized as practitioners.

So also in pharmacy. The supposed lad of parts, instead of being apprenticed to the local carpenter or blacksmith, was apprenticed to the apothecary of the home town or, preferably, of a larger city not far distant. If in the latter there existed a college of pharmacy, the father might stipulate that the boy be given an opportunity during the third and fourth years of apprenticeship to attend the evening lectures.² He swept the store, cleaned utensils, acted as errand boy, and at times was requested to help the apothecary's wife in the family household. As he gradually became acquainted, he was permitted to

² *A Quaker Forty-Niner.*

take part in the more serious aspects of the calling, such as the compounding of prescriptions. Even at best, the knowledge thus acquired was gained in a random sort of way. Work in the laboratory and behind the prescription counter might be supplemented by reading in the few books available, but it was more or less haphazard. If fortunate, he might attend evening lectures provided he served his apprenticeship in a college town, or by seeking employment as clerk in a college town after he had served his apprenticeship.

The basis of the apprenticeship training, whether in medicine, law, or pharmacy, was the time spent in the office or store of the preceptor. The information thus acquired was systematized after a fashion by lectures attended for the most part during the winter months and, so far as pharmacy is concerned, during the evening hours. It was that type of education which the Germans early gave to artisans' apprentices in their "Fortbildungsanstalten" and which we have taken over in our continuation schools.

As such it was by no means to be despised. The system produced its masters just as the guilds had produced notable masters since antiquity. If in our country it fell short even during the time when it served efficiently in numerous cases, it was because it controlled neither the general education of the novice nor the qualifications of the preceptor. So long as anyone could open up a drug store and accept apprentices, it was to be expected that the average store was but a poor training school for the future druggist. That there have always been striking exceptions simply proves the rule. That the colleges appealed to but a small percentage of apprentices and clerks becomes apparent to any one who has gone over their lists of students and graduates. If for decades the lists of students were small, the number of students who saw it through was even smaller, modest as were the college requirements.

The unsatisfactoriness of this situation was recognized by those most concerned, namely, by those who attempted to teach students with no preliminary qualifications and during hours when some of them were more anxious to rest after a long day's hard labor than to listen attentively to lectures. It was for this reason that the Conference of Pharmaceutical Faculties was organized in 1870. Stress was laid on the need of better general preliminary education and also on the necessity of laboratory instruction to supplement the didactic lecture courses.

Year after year these subjects were discussed without results for the simple reason that the lecturer's fees were dependent on the number of students who matriculated—hence no questions were asked—and that laboratory courses were too expensive to be insisted upon. The Conference resulted in utter failure and before the end of a decade it had died a natural death.

However, before this event occurred something else had taken place. The University of Michigan had appeared in the pharmaceutical educational field, much to the consternation of the older colleges. Had they declared their independence of medicine in 1821 only to meet another enemy in the form of a state university? One must read Mr. Taylor's address as President of the American Pharmaceutical Association as well as the discussions of the first conference to realize how bitter was the resentment at this intruder.

The question may well be asked why this resentment was felt. The older colleges had welcomed new rival colleges, why not a state university? The answer to this question is twofold:

1. The colleges represented pharmaceutical home rule; and
2. The educational ideal for which the University of Michigan stood differed from that based on apprenticeship sponsored by the colleges.

Fundamentally, the opposition to Michigan was one of home rule. The colleges had taken up the problem of the education of their apprentices. Even if lack of endowment had prevented them from carrying out their ideals, what could boards of regents and faculties not connected with pharmacy know about pharmaceutical education? It was for the calling itself to decide what was to be the education of its future representatives.

While this attitude is readily understandable even today, the druggists of that period did not realize how far behind they had lagged in their educational methods. Above all they did not realize that the old apprenticeship system was doomed if for no other reason than that the average drug store afforded little or no educational background for the training of apprentices.

Hence, when the University of Michigan not only stepped in to offer laboratory instruction but also ignored drug store experience both for admission and graduation, and furthermore demanded high school graduation as a prerequisite for admission, the old line colleges,

may the entire calling, rose in opposition. Nevertheless, pharmaceutical education did move. Michigan's example was followed by other states of the old Northwest Territory. Wisconsin entered the field in 1883. Indiana in 1884, Ohio in 1885, and Illinois in 1896. But long before the last of the states carved out of the Northwest Territory of 1787 had come out for pharmaceutical education by the state, states outside of this territory had followed Michigan's example: Kansas in 1885, Iowa in 1885, Minnesota in 1892, Maine in 1894, etc.

It should be needless to follow up this movement in detail. Suffice it to point to two instances, both in this Northwest Territory, that are historically of interest. In so doing, it will be necessary, first of all, to point to a movement in organization independent of the older college organization.

Matters of legislation became acute during the seventies when the members of the first Conference could not enforce their own resolutions and spent their energy battling an outside foe, as they considered Michigan. In order to avoid adverse legislation, better organization became imperative. The colleges, as already pointed out, were closed corporations restricted of necessity to the larger cities. In order to interest the druggists at large in the new problems that had arisen, state organization was sought. In this movement no one individual was perhaps more active than Secretary John M. Maisch of the American Pharmaceutical Association, and this in spite of the fact that he was at the same time Dean of the Philadelphia College of Pharmacy. In the latter capacity he fought the educational ideals represented by Michigan. He apparently did not realize that the state associations, the organization of which he urged, would restrict the influence of the colleges and assist in the establishment of the very university departments of pharmacy which he had opposed.

The first instance on record is that of the Wisconsin Pharmaceutical Association, organized in 1880, which less than two years later secured the enactment of a state law and in the following year the enactment of a law creating a chair of pharmacy and materia medica at the State University. The organization of a state association and the enactment of a state law led naturally and logically to the establishment of a Department of Pharmacy at the State University. Let it be known that a graduate of the Philadelphia College of Pharmacy was one of the most active representatives of Wisconsin phar-

macy in bringing about this achievement. Adam Courath saw no disloyalty to his alma mater when he worked for the good of his calling by demanding that the educational resources of the state be made available to his profession.

I have taken Wisconsin as an illustration not only because its Department of Pharmacy was the first to be created by special legislative act on petition from its State Association, but also for another reason. This will become apparent when it is pointed out that the first occupant of the chair of Pharmacy and Materia Medica, Dr. Frederick B. Power, was a graduate of the Philadelphia College of Pharmacy and of the University of Strassburg. What is more, when called to fill the new chair, he was Professor of Analytical Chemistry at the Philadelphia College of Pharmacy.

Dr. Power was a product of the old system of apprenticeship and subsequent college experience. Since he came directly from the oldest college of pharmacy, it was but natural that the course offered by Wisconsin was a compromise between the old and new with strong leanings toward the old. True, there was a pretense at entrance examination. The course offered was one of twice two terms of three months each, i.e., fall and winter. Moreover, graduation was made dependent on drug store experience as well as on passage of the examinations at the University. So far its requirements were those of the old line colleges. They differed in this—that the University not only demanded practically the entire time and attention of the student while in residence, but also made laboratory instruction in the three branches obligatory. It was not until ten years later that changes were made which placed the Wisconsin course on a footing similar to that of Michigan.

If Dr. Power's attitude was based upon tradition, it for that very reason pleased the druggists of the state. The changes inaugurated ten years later came near producing a rebellious attitude on the part of some of the students affected unfavorably, and also of their former preceptors to whom they carried their complaints. While Dr. Power conformed on the one hand, he introduced the spirit of research such as had been manifested at Michigan under the leadership of Professor Prescott. In this he was far ahead of most of his colleagues in other departments at the University. Long before graduation theses were required in the College of Letters and Science, they were insisted upon in Pharmacy. What is more, these theses were not essays copied from

encyclopedias and textbooks, but were based on laboratory experimentation.

The other state to which I desire to draw your attention for a few moments is Illinois, the last of the states of the old Northwest to come into the fold, as it were. The Chicago College of Pharmacy had been organized in 1859. The Civil War had prevented a healthy development and the great fire of 1871 had given it a temporary setback. Like other Chicago institutions it recovered after the fire but, unlike the city at large, made but little progress. Chicago had developed into the metropolis of the Great Lakes country. Not only was it the largest port for grain—it was an important drug center. The traveling representatives of its wholesale drug firms made propaganda for the Chicago College of Pharmacy and secured positions as clerks for the apprentices of small towns throughout the Northwest who wanted to supplement their meagre apprenticeship by drug store experience in a large city. When as late as 1899 the Chicago delegation to the American Pharmaceutical Association met at one of the railway stations, Prof. Hallberg remarked that the Chicago College of Pharmacy was going to have a large class that fall. When asked how he could know in advance, his reply was that in a Sunday paper he had counted seventy want ads for clerks by Chicago druggists. The prospective student came to Chicago not only because of the larger drug store experience to be gained, but because he could earn his way through college while clerking at the same time.

However, the Chicago College was not the only beneficiary of this advantageous situation. In 1886 several dissatisfied members of the faculty had seceded and established a rival “school” in connection with Northwestern University. However, the school was not placed on the Evanston campus, but in the very heart of the business district of Chicago. The nature of the affiliation is well characterized by the agreement that a druggists’ board of trustees was to have charge of the curriculum whereas the University controlled the finances.

With the secession of the Illinois School of Pharmacy as an affiliation of Northwestern University, the financial situation of the older Chicago College of Pharmacy did not prosper. Failing an endowment, affiliation with a larger institution was sought. To become a part of Lake Forest University was not only proposed but actually planned.

Finally, the State Association took a hand and, as a result, affiliation with the University of Illinois was suggested.

Early in the nineties a course in pharmacy had been offered at Urbana, but it was later discontinued. If I remember correctly, the largest number of students enrolled did not exceed nine. After various maneuvers, the Chicago College became a part of the State University in 1896 but did not move to Urbana. Like the schools of medicine and dentistry, it remained in Chicago, and in 1916 moved to the west side to become a part of the University Medical Center.

For some time, the affiliation profited the College but little. On one occasion the President came to Chicago to address the pharmacy students. He told them that now that they were part of the University, it was their duty to cheer the Illinois football team when it played in their city against either Chicago or Northwestern. Fortunately, this paper relationship was improved upon in 1908 when the college received its first state appropriation. Since then it has been on a firmer financial footing that has enabled it to develop in accordance with modern educational ideals.³

Before leaving Illinois, two facts of importance in the history of education so far as the old Northwest is concerned should be brought out. Up to 1892 the University of Illinois had received comparatively little attention from the state. By some it was regarded as a sort of backwoods—or rather back prairie—college when compared with Northwestern and Lake Forest. Hence, when in that year the University of Chicago was established by Rockefeller and endowed with his millions, not a few thought that the state university was doomed. Even in the neighboring state Wisconsin, the Professor of United States History, as well as some of his colleagues in other departments, became fainthearted and began to cast their eyes on other institutions for possible calls. It was at that time that the late Governor Peck, better known as the author of *Peck's Bad Boy*, proved himself of greater faith in the people than the university professor. At a convocation he pointed out that whereas the University of Chicago might be endowed with millions made from oil, the University of Wisconsin was endowed with two and one-half millions of taxpayers.

To the student of the history of education, it is of particular interest to note that with the challenge of Rockefeller's millions, the taxpayers

³ For the dates recorded, see letter of Wm. B. Day to E. Kromers of March 6, 1934.

of Illinois rose to the occasion and gave their state university the support which it needed to step into the very forefront of state universities. Hence it was not a mere farmer's college with which the Chicago College of Pharmacy became affiliated, first in name only, later in reality.

If so far I have emphasized pharmaceutical education by the state in opposition to that by an apothecaries' guild or old line college, it remains to be pointed out that pharmaceutical education by the state is not cut out in accordance with the same pattern everywhere. Restricting ourselves again to the states carved out of the old Northwest Territory, we find that in Michigan the school of pharmacy is located on the University campus, not at Lansing, the home of the State Agricultural College. Both Ohio and Wisconsin have no separate agricultural colleges. In Indiana, pharmacy is not taught at Bloomington, the seat of the State University, but at Lafayette, the home of Purdue University, the Indiana land-grant college. Lastly, in Illinois, the School of Pharmacy is not associated geographically with either Letters and Science, or Engineering and Agriculture at Urbana, but forms part of the state's Medical Center in Chicago.

From the point of view of organization, four of these schools have separate faculty organizations; the Wisconsin course constitutes only a subdivision of the College of Letters and Science.

Though on the college campus, Purdue and Ohio have separate buildings, and Michigan and Wisconsin are housed together with the chemistry departments of their respective universities. Illinois, a hundred miles and more away from the Urbana campus, occupies several buildings of the so-called Medical Center in Chicago.

It must become apparent, therefore, that the mere surroundings of these schools will tend to variations in the curricula and that the courses offered by the several states will not all be alike. This difference has been emphasized by the attitudes of the men who were the intellectual founders. The differences between Michigan and Wisconsin reflected, as has already been pointed out, the differences in the mental attitudes of Prescott and Power. In this connection, I should not fail to point to the differences engendered by the general attitude of the pharmacists of the state, more particularly as this manifested itself in the actions of our state associations and later of the alumni of the several institutions concerned.

These differences are to be welcomed rather than regretted. After all, the problems of pharmaceutical education have by no means been settled. With each institution trying out problems of its own, all institutions may and should profit thereby. The day when pharmaceutical education crystallizes will mark the death of the spirit of education.

Today we rejoice with you in the accomplishments of your first half century. But as graduation day marks the commencement of the student, so, let us hope, this day of commemoration of the past may be the commencement of another half century of still greater achievement. The promise is great. Its realization will depend, not only on the spirit that imbues your faculty, but equally on the loyalty of the alumni. The state has enabled you to prepare yourself not only for your life work, but also for life. If you live this life as you are duty bound in loyalty to your state and Alma Mater, you will see to it that the next generation of pharmacists becomes even more greatly indebted to the state than you are, not, however, for any selfish advancement, but for the good of the entire state and its people.

